

Abstract

A catadioptric projection objective is used to project a pattern arranged in an object plane of the projection objective into an image plane of the projection objective with the formation of at least one real intermediate image and has an image-side numerical aperture $NA > 0.7$. The projection objective comprises an optical axis and at least one catadioptric objective part that comprises a concave mirror and a first folding mirror. There are a first beam section running from the object plane to the concave mirror and a second beam section running from the concave mirror to the image plane. The first folding mirror is arranged with reference to the concave mirror in such a way that one of the beam sections is folded at the first folding mirror and the other beam section passes the first folding mirror without vignetting, the first beam section and the second beam section crossing one another in a cross-over region.